

Abstract

By preliminarily measuring the gallium temperature and the length change of a temperature sensing element comprising a carbon nanotube having a continuous column of gallium contained therein, then heating the temperature sensing element installed in a subject to increase the temperature thereof in air, removing the temperature sensing element subjecting to measure the gallium length, and substituting the measured gallium length in a formula, the temperature is measured accurately over a wide temperature range in a micrometer size or less environment.